The Propagation of the Weak. See page 364.
Habit. By Dr. Andrew Wilson. See page 359.

HEALTH

A WEEKLY JOURNAL OF

DOMESTIC AND SANITARY SCIENCE.

"Reason's whole pleasure—all the joys of sense—
Lie in three words, Health, Peace, and Competence."—*Pope.*

EDITED BY DR. ANDREW WILSON, F.R.S.E. &c.

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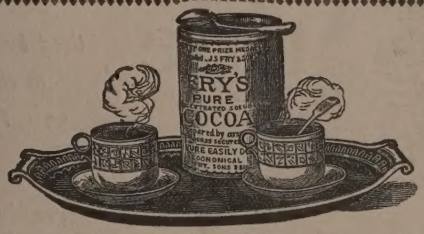

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BOSTON MEDICAL LIBRARY IN THE FRANCIS A. COUNTWAY LIBRARY OF MEDICINE

Speaking of the unequal growth of children, a medical journal remarks that it is sometimes assumed that the growth of children is continuous and uniform in quantity; it is, however, a matter of observation that this is not the case. It has often been noted by accurate observers that with children the increase of weight and height are inversely proportional, and this question has been submitted to the test of experiment by Malling-Hausen, Principal of the Royal Institute for Deaf-Mutes at Copenhagen; his researches have also established a relation between quantities of growth and the seasons of the year. In this establishment 130 children,—boys and girls,—have been daily weighed and measured since the beginning of 1884.

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The records of weight show a maximum period of increase, beginning in August and ending in the middle of December, followed by a mean period to the end of April, and a minimum period of growth during May, June, and July. During the maximum period the daily increase of weight is three times as great as in the mean period, and almost all that is gained in this mean period is lost in the minimum period. The increase in height also shows three main periods: the minimum period, from the middle of August to the end of November, corresponds with the period of greatest weight increase; the mean period then extends to the end of March; while the maximum period lasts from the end of March to the middle of August, corresponding in great part with the minimum of increase of weight. In the mean period the daily increase in height is twice as great, and that in the maximum period two and a half times as great, as in the minimum. As a practical outcome of these researches, concludes my contemporary, it follows that if we would place children under the most favourable conditions for growth, the summer holidays should begin at the end of June and extend to the beginning of September, thus allowing full play for the maximum periods of growth. Schoolmasters and parents, please make note of this latter piece of advice.

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I am heartily glad to note that the *British Medical Journal* has given its assent, in a review of Dr. O. Jennings's book on cycling, to the tricycle as a health agent. My contemporary says that cycling as a therapeutic agent has a considerable future. It ought not to be taken up at too early an age; the so-called "bicycle back," — round, stooping shoulders, — is particularly liable to be produced in a growing lad who uses the bicycle too much; a convenient rule is to avoid recommending it till a lad has passed the age when the chief growth in height takes place. Dr. Jennings's book confirms the impression formed from observation and the perusal of scattered notices in fugitive literature, that cycling is a form of exercise specially useful to men who are growing to be a little more than middle-aged.

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A man who has followed a sedentary occupation begins to experience increasing disinclination to exertion, chronic constipation, with some stiffness and, it may be, flying pains in the joints; for such a man a tricycle is capable of accomplishing a great deal; exercise ceases to be a trouble, the bowels become more regular, and the joint-troubles, which may be at first a little aggravated, disappear. Dr. Jennings believes that chronic gout and rheumatic gout may thus be cured, or, at least, kept at bay, even when the patient has been seriously crippled by several attacks. He also speaks very confidently as to the cure of obesity, if the patient will refrain from gratifying the thirst, which is at first very trying. He even finds some reason to believe that his favourite exercise may be a useful adjuvant in the treatment of early phthisis.

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There are certain warnings, continues the writer, which ought to be given when recommending cycling. In the first place, the cyclist ought to be suitably dressed in all-wool clothing from head to foot, special directions being given to the tailor to make no use of cotton linings, stiffening, or padding; secondly, his motto should be *festina lente*, he should not attempt long journeys or fast journeys until he has thoroughly gauged his own strength; thirdly, he should not force himself to ride up long hills; fourthly, he must, as far as possible, abstain from alcoholic beverages while on a journey.

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With all of these remarks and warnings I heartily agree. Cycling has become too much of a "break-record" sport, and is in danger of coming into disrepute as a health-measure. To amble at one's ease on a tricycle along a pleasant country road is the height of enjoyment; but I will not go so far as to assert that the glass of beer in which many cyclists indulge at the end of their outward journey and before setting out home, is a thing either to do harm or to be despised as a "refresher."

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Do quadrupeds suffer from piles? is a question which a medical journal recently asked. Man has no valves in the lower veins of his trunk; hence, on the absence of these valves the development of piles is believed to depend, inasmuch as the valvular aids to the easy return of blood in the veins are wanting; and this is a serious disadvantage to man, as the only animal easily and naturally living in the erect attitude. My contemporary says that not the least of the miseries to which the human frame is subject is due to hæmorrhoids. From reseaches made by Dr. Bodenhamer it would appear that the painful disease in question is one of the especial privileges of man. Veterinary surgeons and other observers will admit that hæmorrhoids are either rare or unknown in the lower mammalia. Dr. Bodenhamer has reason to believe that the records of cases of "piles," described as occurring in horses and dogs, are not trustworthy. In some instances diagnosis has been founded on hæmorrhage, but the bleeding was probably dysenteric.

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The swellings described as piles were not necessarily hæmorrhoids at all, but true polypi. Dr. Bodenhamer has examined several cases of alleged piles in oxen and horses, but found that they were either condylomata or true glandular polypi. Dr. Bodenhamer concludes his interesting paper on the subject, in the *New York Medical Journal*, by observing that if it be true that the erect position of man is the only predisposing cause of hæmorrhoids in the human race, and that the prone position of quadrupeds confers immunity from that disease, that truth affords a strong argument in favour of the Darwinian theory that we were originally quadrupeds. In view of this predisposing cause, it would appear, then, that hæmorrhoids are alone the heritage of man in his present exalted posture. "Pronaque dum spectent animalia cætera terram, os homini sublime dedit," but at a certain cost, in one respect at least.

Original Essays

"Life is not to live, but to be well."—*Martial.*

HABIT.

By Dr. Andrew Wilson.

The phrase, "Habit is second nature," has come to be accepted as a proverbial truth, deriving all its force from the fact that the experience of every-day life proves it to be so true. To speak of ourselves as the "slaves of habit" is by no means so meaningless or inexact an expression as might at first sight be supposed. Even if we are apt to cavil at the word "slaves," as putting the case too strongly, we have still to bear in mind that habits of one kind or another assuredly dominate and rule our every-day life.

For, in a wide, but correct, sense, duties we have become accustomed to perform without consciousness or the exercise of thought, may be regarded as simply representing perpetuated habits. In this light, reading, writing, piano-playing, the exercise of any trade, or even the movements of walking itself, are all so many instances of permanent habits, which have become stereotyped into definite parts of our existence. Leaving out of sight for the moment the fact that many habits are inherited things, and that, as such, they are handed down from father to son, with more or less exactitude, it seems to be an accurate description of reading, writing, or trade-practice to designate them actions which, through long-continued repetition, have simply become "habits" proper to, and useful in, the life we lead. At first, the acquirement of knowledge or the practice of a trade is undoubtedly a thing requiring attention of mind. The boy or girl has to "learn" to read and to write, for these accomplishments do not "come by nature," Dogberry notwithstanding. Yet in a little while the child "gets into the habit" of doing both actions, without having to think at all of the words or letters that at first puzzled its comprehension. So with the work of "learning a trade." The compositor, for example, who sets up this article in type, had to pass an arduous enough period as an apprentice-printer. He had to learn the feel of the type, and the manner in which each metal piece had to be placed in relation to its neighbours. Soon familiarity with type-setting grows out of the practice, and the man's work in this perfected stage appears before us simply as an illustration of repeated and permanent habit.

That habit, as such, sways our lives cannot therefore be doubted. In this view, it is only a phase of that action of the nervous system which we are accustomed to call "automatism," or the unconscious, machine-like action of the nervous system. The inheritance of habits is also a well-known fact of science. We may all recall instances wherein we see a child or a full-grown person repeating unconsciously the ways, behaviour, and even the peculiarities of the parent. A peculiar manner of walking, the twist or turn of the head, a special gesture, may, and are, each and all, capable of transmission from parent to progeny. Darwin instances a case in which a person when asleep was known to raise the hand and then to bring the clenched fist down, with some degree of force, on the bridge of his nose. The swollen state of that organ, indeed, indicated the force with which this action was performed. The child of this person exhibited the same habit, with this difference: that in place of bringing the shut hand down on the face, the open palm was brought in contact with the nose. This peculiarity was noted by the wife of the individual in question, who neither knew of its existence as a habit in her husband, nor in her husband's father. I happen to know a person who has a very peculiar trick of jerking his head to one side when excited. When discussing politics,—at present a theme terribly liable to engender heated feelings,—this individual jerks his head at a rate corresponding tolerably fairly with his exasperation at what he conceives the "insane folly" of those who take the liberty of disagreeing with his opinions. Now, in the son of this individual, who is a lad about eighteen years of age, the father's "head-jerk" is repeated as exactly as could be. When contradicted, or ruffled in temper, the juvenile head wags and jerks exactly as does the parental head-piece; and to those who are interested in noting the influence of inherited habit, the study of these movements is of most peculiar and convincing nature, in so far as heredity is concerned.

How and why habits are capable of being transmitted from parent to progeny is, of course, a matter regarding which we have no exact details to which we may appeal. We remain here in the region of misty theory, which attempts but feebly,—from the recondite nature of the problem,—to account for the facts of the case. If we consider habit as resulting from a particular method of nervous working, the matter is left as undetermined as before. We know so little of inheritance itself,—as a method, I mean,—that to speculate about the transmission of habits is a sheer waste of time as things are.

Yet the study of habit is a most profitable thing, both from a social and a health point of view. It becomes clear that if habit is the powerful thing we know it to be in human life, exercising a potent sway over body and mind alike, it behoves us to see that, in so far as in us lies, we adapt our habits to noble and healthy modes of living. The saving clause in human existence, in this matter, clearly consists in the power we possess of modifying our habits, and of adapting our ways and works to new circumstances. To take a simple example, and one, if I mistake not, quoted by Professor Huxley in his *Life of Hume*, when we lift a ewer of water to pour its contents into the basin, we stiffen our muscles to lift what we suppose is a full jug of water. If the ewer happens to be empty, we experience a species of unexpected surprise, evinced by the force with which the empty jug is lifted,—that is, in expectation of its being a full one. Now, it is clear habit has accustomed us to train our muscles to the act of lifting full ewers, and so the matter remains; but it is perfectly conceivable that by strict attention to the details of this petty act of life we might evolve the habit of first judging by observation whether we had to deal with a full jug or not. As a matter of fact, we are perpetually forming new habits, mostly by modifying our old ones. The very possibility of any man attaining to something better and higher in his way of life at large, is founded on this power of supplanting one habit by another, and of replacing a habit which is injurious or debasing by one which is ennobling and beneficial.

Let us note, then, how important an affair habit becomes as a factor in either destroying or favouring health. We speak of a man having given way to a drink-habit, or a morphia-habit; and we mean thereby that he has become a slave to a practice admittedly of serious nature, in so far as his health and welfare are concerned. Here we see the terrible power of habit evinced in the craving for alcohol and for morphia respectively. The man is appealed to and argued with, and recognizes the truth and wisdom of the advice that

he should renounce his habits and adopt a healthy and rational mode of life. But we all know the hopelessness of such appeals, in many cases at least. As a physiological study, we see the nervous system of the man impressed with a habit which, growing by what it feeds on, dominates his life. Yet, given a sufficient bias, as it were, to the rational side of things, and we may find the patient to resist the influences hitherto paramount for evil in his existence. There is present the terrible craving for his stimulant; habit is asserting its sway over his life. But he is forming another habit; a new custom, that of temperance, is supplanting the old; and when he has successfully renounced his libations, he wonders, later on, how he could have succumbed so easily to such a debasing practice. All the same, it is a case of one habit superseding another. Health, in this sense, is, therefore, as much a matter of habit as is disease itself on the other hand.

Recognizing this fact, it becomes clear that an immense gain to health is attained when our habits swing, for the most part, to the healthy side of things. We acquire the fashion of eating at certain times; just as smokers experience a keen longing for an after-dinner pipe or cigar. Digestion, and the internal affairs of the body, which are carried on all unconsciously, are affected by habit quite as powerfully as are the common acts of life. Hence, we may save ourselves much needless labour and trouble if we see to it that our habits are of healthy and proper kind to begin with. That which is strange at first, as a writer remarks, may be rendered delightful by repetition; and this, of course, is only another way of saying that habit becomes a second nature.

On more than one occasion physicians have mooted the question of habit and disease. The speculation has been indulged in that disease, in one form or fashion, may be regarded as a matter of bodily "habit," affecting injuriously our physical frame. Nervous ailments are extremely liable to be propagated and even originated by imitation of ailments; such imitation, in time, developing into a permanent habit of abnormal kind. In a still broader view of things, it has been argued that all disease arises from the unconscious repetition of an unwonted "habit" of body; but this opinion, it is obvious, dives too deeply into transcendental matters to find favour in the eyes of practical people.

What concerns us more nearly, and what certainly is vastly more important for us all to bear in mind, is the fact that as we are certainly creatures of habit, it behoves us to see that the fashions and customs we pursue in the matter of foods, drinks, and life at large, are healthy habits to begin with. There may be hardship involved in changing our habits when these are injurious, even if pleasant, to us; but our saving clause is found in the thought, that what is at first a new and less pleasing mode of life, will, in virtue of repetition, become itself a pleasure and a profit.

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This pamphlet, now being issued in its Fifth Edition, forms a complete refutation of quackery of all kinds, and is a safe and reliable guide, from the medical standpoint, to all young men. Every Youth should read this pamphlet as a guide to the safe conduct of life in a moral and physical sense. Full directions for the treatment of "Nervous Debility" so-called, and allied ailments, are also given. Thousands of sufferers have welcomed this pamphlet as a veritable beacon-light to health and purity of life.

A VALUABLE REMEDY.

Within recent years a remedy for skin-diseases,—curative in many of these ailments, and ameliorative in all,—has been brought under the notice of the medical profession, in the shape of a pure oil, called "*Oleum Deelinæ*,"—made by The Dee Oil Company, of Saltney, Chester. This remedy was first brought under our notice in an article written by Dr. John Roberts, of Chester, in which the value of this oil in skin-diseases was fully demonstrated by a careful analysis of the treatment of some forty-two cases, varying greatly in nature, extent, and duration.

The first point to be noted by the public with reference to "Oleum Deelinæ" is its absolute purity. Like the "Salvo Petrolia,"—which is really the perfection of petroleum jelly, and ranks, in our opinion, above vaseline itself as a medium for ointments and other preparations,—"Oleum Deelinæ" is destitute of all noxious and irritant properties. It is free from acids; indeed, in the process of manufacture acid does not touch this product in any way, and this first quality of purity is therefore in itself a high recommendation.

Then, to the feature of purity must be added that of simplicity in application. "Oleum Deelinæ" has merely to be rubbed into the affected parts of the skin twice or thrice daily, while, naturally, the diet of the patient is to be non-stimulating, and in other respects to be ordered as becomes and befits the healthy organization. It is astonishing to find how quickly intractable skin-troubles, which may have resisted remedies of recognized kind, internal and external alike, give way and disappear before the simple inunction with "Oleum Deelinæ." Our own experience with this oil includes the treatment of cases of eczema—commonest of skin-troubles—both in infants and adults, ringworm, barber's-itch, and many other forms of eruptions, simple and grave in nature. The oil, besides, is cleanly and pleasant to use.

The words of Dr. Roberts are well worthy of being quoted with reference to his experiences of "Oleum Deelinæ" in the treatment of skin-diseases. "This oil," says Dr. Roberts, "as its name implies, is manufactured on the banks of the Dee, by The Dee Oil Company, by a process of refining, and I may say, without fear of contradiction, that it is considered the most pure and refined of its kind in the market. It is not my intention to describe to you the refining process; suffice it for me to say that I have here for your inspection a sample of the article itself, specially refined, and which I have used for the past four years with great success. I am not a believer in particular panaceæ and their reputed curative virtues, but I can speak from experience of the greater medicinal properties this oil possesses over any of its family which it has been my custom to prescribe in skin-diseases. I have used vaseline extensively, both by itself and as a basis for ointments in a variety of skin-diseases, but never found anything so efficacious and satisfactory in its results as 'Oleum Deelinæ.' It possesses several qualities to recommend it. It is clean, inodorous, and does not become rancid, and for all it is an oil, it would appear paradoxical to say that there is little or no greasiness left after its application. As it is so easily absorbed, I have prescribed it in many cases with success where other remedies had failed.

"Its therapeutical virtues were accidentally discovered by a gentleman who had been subject to frequent attacks of general gouty eczema, and where all kinds of lotions and ointments had failed to afford any but temporary relief. Decided improvement followed its application at once, and, although he has had several attacks since, no

other local application has been used. I now invariably give it the first trial in all cases which I consider suitable for its application. I never prescribe it during the acute stage. I recommend ablutions with either warm bran or oatmeal water, and dry the parts carefully and gently before its application. In all cases of acute general eczema, when desquamation (or skin-peeling) begins I order a warm bran or oatmeal bath.

"'Oleum Deelinæ,'" concludes Dr. Roberts, "has been prescribed by several men in Chester with very favourable results; also by a few medical gentlemen in Wales, who were present when I read the paper, and also spoke very highly of its virtues. In addition to the enclosed list of cases, I have found it very efficacious in pityriasis capitis, also eczema capitis (impetigo) in children, the scabs being previously removed by poultices. Several cases of eczema and intertrigo in children during dentition were, some cured, and all relieved, by the daily application of the oil after an oatmeal bath."

It would be needless to follow Dr. Roberts through the long list of cases in which he found "Oleum Deelinæ" an effective and curative application. One or two quotations from his experience will suffice:—"Case V.—J. M., aged fifty-two, housewife, had suffered from acute eczema of the hands and arms for three weeks. This was the second attack. The first attack had been very tedious. It had been treated by lead, opium, and prussic acid lotion. The second attack was treated purely locally by bran water bathing for a few days, and then the application of 'Oleum Deelinæ.' The patient was well in seven days. Case VI.—J. C., aged thirty-eight, porter, had acute eczema of hands and arms for fifteen days. This was the second attack; it was excited by washing bottles. The first proved tedious in healing. This attack was treated by bran and oatmeal water bathing, and the application of 'Oleum Deelinæ.' The patient was well in seven days. Case XL.—W. P., aged thirty-five, stationer, has had acute general eczema for five days. He has been threatened by attacks for some time. He is evidently of the rheumatic diathesis. I ordered saline diaphoretics. On the eighth day the skin began to desquamate. A bran bath was then ordered, and 'Oleum Deelinæ' used afterwards daily. He was completely cured in thirteen days, and has had no return of his skin-troubles."

Nothing more need be said by way of testifying to the value of this admirable and most simple of remedies.

Tabloids of Compressed Warburg's Tincture.—The application of the compressing process to the famous Warburg's Tincture, says the *Chemist and Druggist*, which has acquired such an extraordinary reputation in the treatment of malarial fevers, is an achievement which will certainly be welcomed by travellers and residents in tropical climates. It is not always practicable to carry large quantities of liquids, and the remedy often has to be administered in heroic doses. Messrs. Burroughs, Wellcome & Co. have produced these tabloids under the very valuable guidance of suggestions from Dr. Felkin, of Edinburgh, a physician who has had exceptional experience as an African medical missionary and explorer. Each tabloid represents half a drachm of the usual tincture, and it seems probable that in one respect at least the medicine in this form will be of even greater service than as a liquid. That is, that the tincture is found to too often excite vomiting on swallowing; the tabloids, which can be readily taken without offence to the gustatory nerves, will seldom or never, it is apprehended, have such an effect.

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

PRECAUTIONS FOR THOSE CONSUMPTIVE AND THOSE WITH WEAK LUNGS.

1. Wear flannel or woollen underclothing, to keep the body from chilling. Never wear at night anything but flannel to sleep in.

2. Wear substantial, loose-fitting boots, with cork insoles, to keep the feet from being chilled. Also change the socks every day.

3. Live at as high an altitude as possible.

4. Live on a sandy,—and not clay,—soil, if possible; at all events, live in a dry house.

5. Do not live in a large town, where there are factories and thousands of people to vitiate the air.

6. Do not over-work, or work in a strained attitude.

7. Do not live or sleep in a small room, or in one not continuously well-aired.

8. Do not live or sleep in a room which has not the sun the greater part of the day.

9. Live in the open air as much as possible, and take plenty of out-of-door exercise.

10. Keep the mind healthfully employed, and bring every muscle into the best possible condition.

11. Look well to the hygiene of the skin. Take a bath, if not more than ten pounds have not been lost in weight, every couple or three days.

12. Be punctiliously regular in habits of eating, retiring, &c. Avoid the damp night air; though, if the atmosphere be very dry, the windows should at night be left down at the top and up at the bottom.

13. Avoid dusty occupations and dust-laden air.

14. Take every care to keep the appetite and digestion good.

15. Do not go away from home and expect the atmosphere to do everything for you. Consumption is too prevalent, and tenacious, and fatal a disease for this.

16. To have reason to apprehend consumption once, is to have reason to do so always, though, perhaps, in less degree.

17. Do not expect that cough-mixtures are going to "heal your lungs."

18. Watch your weight. Loss of weight is a bad sign always.

19. Do not be deceived into indiscretions by temporary improvement. Improvement alternating with relapses constitutes the course of consumption.

20. Keep the bowels open; hæmorrhages occur from the lungs most frequently where this injunction is disregarded.

21. Do not expect to increase in weight with cod liver oil if a due quantity of meat be not taken daily.

22. Do not force the oil alone down the throat on an empty stomach, any more than you would a lump of butter. The most scientific way to take cod liver oil is in the form of Kepler Solution.

23. Alcohol, probably, never yet prevented consumption, though it is often useful, in small quantities, in "keeping the patient up" and aiding digestion.

24. Let no one prophesy that he enjoys a certain and sure immunity from consumption. No one does.

25. To make an Irish bull,—The best time to get cured of consumption is before you have it.

THE PROLONGATION OF HUMAN LIFE.

By Clement Milton Hammond

In order that one may live to near the limit in years of human life, must he inherit some peculiar qualities? Must he conform his habits to some set rules? Must he eat and drink certain things and abstain from certain others? Or, does it all depend upon a series of indeterminable accidents?

There have been many theories, and perhaps a pageful of facts, given to the world upon the subject during the past few centuries; but no thorough, systematic study of these questions has been made. All that we know about the things that seem to govern the length of man's life is what we have learned from limited observation and the small number of cases that have been imperfectly recorded in history or in medical works. It occurred to me that if accurate statistics could be collected about 1,000 men and women, over 80 years of age, living in New England to-day, such information would form the basis of some very interesting and very valuable conclusions. In my position as associate editor of the *Boston Globe*, I found this a comparatively easy task. I had 5,000 blanks printed, asking for the following information in relation to men and women over 80:—

Name, residence, age, nationality; whether married or single; general description, including size, weight, complexion, &c.; children, how many, ages, state of health, &c.; habits, hours of rising, retiring, meals, exercise, &c.; occupations, past and present; food and drink, quantity, kind, &c.; attacks of sickness, if any, and at what ages, nature of disease, &c.; condition of teeth, hair, beard, skin, &c., at time when seen by the correspondent; age at which father and mother died, and of grandfather and grandmother whenever possible.

These blanks were sent to the representatives of the paper in all parts of New England, accompanied by a letter of explanation which cautioned them to be accurate rather than enterprising. More than 3,500 of these blanks were filled out and returned in the course of two months, and the story that they tell I will try to give in outline.

Every county in Massachusetts, and nearly every county in the whole of New England, is represented in these returned blanks. Some of these old people live on the sea-coast, some on the lowlands of the Connecticut and its tributaries, some among the Berkshire Hills, White and Green Mountains, some upon the sands of Cape Cod, some among the pine-woods of Maine, and others in the manufacturing cities and towns. The canvass has not, of course, been complete; but it has been as complete in the cities as in the towns and on the farms, as complete in one section as in another, as complete among one class as among another. If these 3,500 instances prove anything,—and I think no one will dispute that they do,—many of the commonly accepted theories would be overturned, and strange facts take their places.

In looking through these blanks, the first thing noticeable is that few of New England's old people have remained unmarried throughout life, the total being less than five per cent. The ratio of unmarried women to unmarried men is about three to one, and, taking married and single together, the women exceed the men by 251. In Massachusetts the list shows that the women exceed the men by 450; in the other States the men exceed the women. The great majority of both men and women have been married only once, usually in early life. The average number of children as a result of these unions is five, and those children now living are generally recorded in the blanks as healthy.

The fact that in Massachusetts, taking the whole population into account, the women exceed the men by several thousand, accounts in some degree for the greater number of old women, but not, certainly, for anything like half the excess over the men. I attribute this excess to the fact that during the past half-century the bulk of the population of Massachusetts has been on the seaboard, and a large number of men have been fishermen and mariners. Because of the great loss of life among this class, especially before the time of steamships and during the palmy days of the whale-fishery, the male population shrank in numbers below the normal level, this showing most strikingly in a list of old people.

Another very peculiar thing revealed by this canvass is the fact that five out of six of these New England old folks have a light complexion, with blue or grey eyes, and abundant brown hair. In stature, the men are mostly tall, and the women of medium height; in weight, the men range from 100 to 160 pounds, with a few of 200 and over, and the women from 100 to 120, with exceptional cases of 180 and over. Throughout life the men have been bony and muscular, the women exactly opposite. The condition of the hair, teeth, beard, and skin of these old people at the time when the blanks were filled out was recorded in about 2,500 instances. In nearly all the hair remains thick, the teeth are very poor or entirely gone, the skin is only slightly wrinkled, and very few of the men wear any beard. In many instances the correspondents speak of the skin as being "fair, soft, smooth, and moist." One case is given, that of a man of 89, from whose mouth not a tooth has been lost. In most instances of those not over 90 the eye-sight is still good, and in dozens of cases it is pronounced "remarkably good."

Habits.—The information which the blanks give on the subject of habits coincides with the opinion of most people, formed from observation, that longevity without regularity of habits is rare. These old people, men and women alike, are put down as early risers and retirers, almost without exception, and fully nineteen out of every twenty have observed this custom throughout life, except, perhaps, at some short period in youth. Meals have been eaten regularly, three each day, with dinner at noon, the exceptions being so rare as to indicate nothing. Exercise in most cases has been hard work up to 65 or 70, and after that period has consisted (when the regular occupation has been given up) of walking, gardening, or both. Except in cases of sickness, these old people are, as a rule, as active and as fond of constant occupation of some sort to-day as most men and women are at 35.

Occupations. — One of the most significant facts gathered in this canvass is that regarding occupations. Out of 1,000 men, throughout life 461 have been farmers; 92 have been carpenters; 70, merchants; 61, mariners; 49, labourers; 42, shoemakers; 41, manufacturers; 23, clergymen; 23, masons; 16, blacksmiths; 16, bankers; 12 each, iron-workers, mill-hands, physicians, and lawyers; and the rest are divided among nearly all the other trades and professions. The list includes only one each of the following: Hermit, hunter, chemist, professor, soldier, broker, auctioneer, jockey, contractor. Nearly all, however, began life upon the farm.

Eight hundred out of 1,200 women have been farmer's wives, and all but about fifty of the remainder have been housewives. Four women only, all unmarried, have

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All Mothers and Nurses should read Dr. NACHTIGAL'S PAMPHLET on Infant Feeding and Infants' Food, published by W. Ridgway, 169, Piccadilly, London, W., post free, 6½*d.*

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A REMARKABLE CASE.

Under the above heading the *Doncaster Reporter* of July 6th, 1887, published the following in its editorial columns :—

"Our readers may recall the circumstance of a young clerk, named Arthur Richold, falling insensible in the Wheatley-lane in this town some time ago, and being picked up, as he continued perfectly helpless, was taken in a cab by two gentlemen to the office of W. P. Fisher, Esq., the solicitor who employed him. On restoring him to consciousness it was ascertained that he was afflicted with what seemed to be an incurable disease. When he was able to speak he said he had been to his dinner and was on his way back to his work, when suddenly his head was in a whirl and he fell in the street like a man who is knocked down. On coming to his senses in the solicitor's office he thought what this might mean, and feared he was going to have a fit of illness, which we all know is a very dreadful thing for a poor man with a family to care for.

"With this in his mind he at once sought the best medical advice, telling the doctors how he had been attacked. They questioned him, and found that his present malady was exhaustion of the nervous system resulting from general debility, indigestion, and dyspepsia of a chronic nature. This in turn had been caused by confinement to his desk and grief at the loss of dear friends by death. The coming on of this strange disease, as described by Mr. Richold, must be of interest both to sick and well. He had noticed for several years previously, in fact, that his eyes and face began to have a yellow look; there was a sticky and unpleasant slime on the gums and teeth in the morning; the tongue coated; and the bowels so bound and costive that it induced that most troublesome and painful ailment—the piles. He says there was some pain in the sides and back, and a sense of fulness on the right side, as though the liver were enlarging, which proved to be the terrible fact. The secretions from the kidneys would be scanty and high-coloured, with a kind of gritty or sandy deposit after standing.

"These things had troubled Mr. Richold a long time, and after his fall in the street he clearly perceived that the fit of giddiness was nothing more than a sign of the steady and deadly advance of the complaint, which began in indigestion and dyspepsia. His story of how he went from one physician to another in search of a cure, that his wife and little ones might not come to want, is very pathetic and touching. Finally, he became too ill to keep his situation, and had to give it up. This was a sad calamity. He was appalled to think how he should be able to live. But God raised up friends who helped to keep the wolf from the door. He then went to the seaside at Walton-on-the-Naze, but neither the change nor the physicians who treated him there did any good. All being without avail, he visited London, with a sort of vague hope that some advantage might happen to him in the metropolis. This was in October, 1885.

"How wonderful, indeed, are the ways of Providence, which dashes down our highest hopes and then helps us when we least expect it.

"While in London he stated his condition to a friend, who strongly advised him to try a medicine which he called Mother Seigel's Curative Syrup, saying it was genuine and honest, and often cured when everything else had failed. He bought a bottle of a chemist in Pimlico, and began using it according to the directions. He did this without faith or hope, and the public may, therefore, judge of his surprise and pleasure when, after taking a few doses, he felt great relief. He could eat better; his food distressed him less; the symptoms we have named abated; the dark spots which had floated before his eyes like smuts of soot gradually disappeared, and his strength increased. Before this time his knees would knock together whenever he tried to walk. So encouraged was he now that he kept on using Mother Seigel's Curative Syrup until it ended in completely curing him.

"In speaking of his wonderful recovery, Mr. Richold says it made him think of poor Robinson Crusoe, and his deliverance from captivity on his island in the sea; and added, 'But for Mother Seigel's Curative Syrup the grass would now be growing over my grave.'

"Our readers can rest assured of the strict truth of all the statements in this most remarkable case, as Mr. Richold (now residing at Swiss Cottage, Walton-on-the-Naze) belongs to one of the oldest and most respected families in the beautiful village of Long Melford, Suffolk, and his personal character is attested by so high an authority as the Rev. C. J. Martyn, rector of that parish, besides other excellent names. We have deemed the case of such importance to the public as to justify us in giving this short account of it in our columns."

Mother Seigel's Curative Syrup is for sale by all chemists and medicine vendors, and by the proprietors, A. J. White, Limited, 35, Farringdon-road, London, E.C., price 2s. 6d. per bottle.

supported themselves through life by inherited wealth, and are now aged respectively 82, 83, 86, and 90. Three other unmarried women have been milliners, and six, one unmarried, have been dress-makers. Seven, two unmarried, have been nurses. Six, two unmarried, have been school teachers.

Among the hundreds of remarkable instances which illustrate constancy of occupation cited by the correspondents are a few that I cannot refrain from giving, because I believe that they point to a very important fact, and at the same time make most interesting reading :—

Elijah Tolman, of Brockton, Mass., is 85, and was a stage-driver for thirty years. For the past seven years he has worked in charge of a coal-office, and has been but one day from his duties in that time.

Andrew Stetson, of Duxbury, Mass., is 95, and was constantly employed all his life in making shoes until one year ago.

Aaron Farnham, of Cambridge, Mass., aged 87, sold Bibles in Vermont for seventy years.

Daniel Bigelow, of Athol, Mass., now 87, has worked as a farmer for seventy-seven years, and mowed grass with a scythe for seven tons of hay the past summer.

William E. Cook, of Portsmouth, R. I., is 89, a blacksmith, and still works in his shop six days each week.

Ira Chamberlain, of Bangor, Me., aged 95, worked at the tailor's trade until his last birthday.

Thaddeus Rising, of Hatfield, Mass., is 80, and works daily, as he has for the past sixty years, at his trade of a whip-maker.

Mrs. Jane Huntress, of Augusta, Me., 92 years of age, still does her own cooking, washing, ironing, and garden-work. Since she was 55 she has earned the money for and built a fine house, going herself to the mill and selecting the lumber, and superintending the building operations. She is one of twelve children, all born without the aid of a physician.

Food, — Drink, — Stimulants. — The blanks tell one simple story, with so few variations as to be positively monotonous, in relation to the food eaten by these old people. The diet has been regular New England home-dishes of meat, vegetables, and pastry, with breakfast early, dinner at noon, and supper late. Very few are mentioned as small eaters or large eaters; most are mentioned as not particular, with good appetites through life. A half-dozen never eat meat, and two have abstained from water. More than two-thirds have been habitual users of tea and coffee, and of the remainder nearly all have drunk tea. Few of the men, and none of the women, are given as users of more intoxicating beverages than cider, and not a dozen out of all have ever used liquors to excess. Ten of the women are mentioned as habitual smokers, and a score as snuff-takers. Of the men, a large majority have used tobacco, —either chewing, smoking, or both. Most of the tobacco-users have been moderate, although numbers of cases are given where the amount consumed is enormous, and continued constantly up to the time when the census was taken. A few broke away from the habit after it had lasted twenty, thirty, or fifty years, and have now been without the narcotic for perhaps a decade or more.

Sickness.—The record of sickness is so varied that scarcely half a dozen cases are alike out of the whole long list, except where there has been no illness other than the usual complaints of infancy.

Out of 1,049 men, 382 never were ill since early childhood; and of 880 women, 286 have enjoyed the same good health. One hundred and fourteen men and 171 women have had petty diseases only, and 495 men and 402 women have been seriously ill. The serious illness of the majority was a fever of some sort, typhoid heading the list. The other diseases are as numerous almost as the individuals afflicted, running from Asiatic cholera to shingles, and the attacks have been at all periods of life. As might be supposed, rheumatism is the most general complaint, usually in conjunction with other diseases. Locality seems to have had no influence on sickness, the same disorders appearing on high land and on low land, on dry land and on moist land, in the interior and by the sea-shore.

Parents and Children.—The average age reached by the parents and grandparents, taken together, of these old people was about 65, and in few instances have both the father and mother or the grandfathers and grandmothers died under 50, although in many cases, —about twenty-five per cent.,—either the father or the mother has died before reaching this age. Not over one-third of the children of these aged people have reached middle life, and about one-half died either in infancy or before 30, and about one-fourth only are still living. The health of the latter, however, is in every instance put down as good. The blanks do not tell what would, perhaps, be a valuable thing,—how many brothers and sisters the subjects had, and whether or not they died young; it appears though, from the names, that few members of the same family have survived, unless it is supposed that the remaining members were older and have died, or young enough to come under the eighty-year limit.

(To be concluded.)

Toilet Vinegar.—Oils of lavender, rosemary, juniper, peppermint, cinnamon, of each four ounces; oil of lemon, oil of cloves, of each eight minims; alcohol, three fluid ounces; pure acetic acid, four fluid ounces; water, q. s., to make sixteen fluid ounces. Dissolve the oils in the alcohol, add the acetic acid, and then enough water to make sixteen fluid ounces in all. Set the turbid mixture aside for a few days, occasionally shaking it up, and afterwards filter through a good filter-paper.

Worstedopolis—a Sketch History of the Town and Trade of Bradford is the title of a highly interesting pamphlet, which the Bradford Manufacturing Company has had compiled. It gives a succinct account of the rise and progress of the industries for which Bradford is famous all the world over, and traces the growth of the trade at the head of which the Company above named may be said to stand. The enterprise of the Bradford Manufacturing Company, we are glad to learn, has been equalled only by the success which has attended its practice of appealing direct to the public—all varieties of linen, cotton, and and woollen goods from dress fabrics to window-hollands, and from hosiery to quilts and table-linen and umbrellas being manufactured by this firm. The "Girl at the Loom" trade-mark has acquired a high fame, which is likely to increase, owing to the plain and direct business system in which the Company manages all its operations; inviting, as it does, the poorest as well as the richest as customers. The pamphlet is a notable contribution to the industrial history of Yorkshire.

CHEMICAL ANALYSIS.—Dr. Drinkwater, Lecturer on Chemistry in the Edinburgh Medical School, undertakes the Analysis of Water, Foods, Wall-Papers, and of all other products and articles connected with Household Health and Commercial Interests. Terms on application to Dr. Drinkwater, Chemical Laboratory, 41, Chambers-street, Edinburgh.

The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

THE EVIL EFFECTS OF SOAPS.

THE skin is covered with a tiny film of oil; beneath this tiny film lies the horny layer of the skin; the oil and the layer of horn together protect the delicate tissues beneath from the injurious influences of wind and rain and impurities in the air. When the skin looks unclean, it is because particles of dust adhere to the oil upon the surface.

To remove this unclean appearance soaps are used, for the reason that when employed they distribute more or less alkali upon the surface and remove the oil and dirt together; many a housewife will recognize that this is true, as she, perhaps, often uses soda instead of soap to clean her greasy dishes. Now, if the oil upon the skin helps to protect it, it is clear that the more oil there is removed the more exposed the skin will be to deteriorating influences of every kind.

After washing the face and hands with soap they often present a very shiny look. This is because the horny layer (or scales) of the skin alone are left to protect the integument. Besides all this, the removal of the oil weakens the skin, drying it and rendering it liable to break out into eruptions on the slightest exposure. The unhealthy hue of many a face, and the wrinkles and pimples, are, no doubt, in part due to the employment of highly-scented, injurious soaps. Attention may, with profit, be directed to a new departure in the way of soaps. Vinolia Superfatted Soap, introduced to the medical profession within the last year, is one which differs from the ordinary soaps hitherto manufactured in that it contains some saponifiable fat diffused throughout its substance, instead of some free alkali, such as soda or potash, to irritate and injure the skin.

"But," replies someone, "I always use a neutral soap." Now, in the first place, neutral soaps are almost an unknown quantity; and, in the second place, when even a neutral soap is dissolved in water, more or less alkali is inevitably set free, and this alkali which is set free acts, of course, upon the skin. In the Vinolia Superfatted Soap referred to, these objections have been taken into account, and the difficulty circumvented by an original, newly-discovered process, whereby excess of alkali in ordinary soaps has given place to a plastic emollient cream, the action of which is to tone and improve the skin. This new soap lathers beautifully, and does not crack, as the imitations of it are prone to do. In the words of the late Dr. Milner Fothergill, "Vinolia Soap is scientifically perfection. It is a lovely soap, containing a superabundance of cream, and those with a tender, sensitive skin should use no other soap." It is excellent for shampooing, as it does not injure the structure of the hair, or weaken the scalp by extracting the natural oil.

"I'M taking this boy to a doctor," said the father of a chubby four-year-old to a friend on a Cass avenue car. "What's the matter with him? He doesn't look sick." "He's plethoric of cash,—full of money," said the child's father. "He got a handful of change out of my pocket, and when I ran after him I don't know how many pieces he swallowed. He's just full of dimes and nickels."

THE PROPAGATION OF THE WEAK.

AN English journal asked, among other questions propounded to the medical fraternity, the following: Do you think that the great advance in the healing art is responsible for keeping alive much weak life that will in time affect the whole race injuriously?

The history of medicine, and the statistics furnished from authentic sources, leave no room for doubt that life in many instances has been prolonged by the aid of improved methods of treatment. There are some cases, such as heart-affection and consumption, in which medical aid prolongs life. Many other cases in which advanced skill has prolonged life evidence the fact that the lives of those who would transmit physical degeneracy to posterity, has been lengthened under a physician's care. But it is estimated that such cases are too few to affect seriously the human race. Moreover, this same medical skill contributes in a much larger proportion to the preservation of vigorous health, and adds materially to the prolongation and propagation of the physically strong. The ratio of the number of lives preserved by medical treatment in the two classes is largely in favour of the strong. So that the improved methods of treatment, whatever they may do toward the propagation of the weak, result in contributing more greatly to posterity the rich legacy of vigorous health.

The question, however, is not a practical one, and is one more for the casuist than the scientist. Considered in its cold, scientific relations, it is void of humanity and repugnant to the rudest ethics. The first principles of human law recognize and proclaim the right to life, and the strongest impulse of all life is self-preservation. This is universally accepted, and the plan of society and government is based upon it. The law of self-defence is universal, and is the highest law among the rudest society and the most advanced civilization. The finest sense of humanity demands that the suffering of our fellow-men be relieved and life sustained to the limit of possibility. Here is a question of humanity. The weak have a right to live. To let them die when means are at hand to preserve their lives partakes more of the nature of murder than that of an act of humanity towards posterity.

It is claimed that the greatest good to the greatest number is paramount law; that the public good is the first to be served, and that the well-being of the few must be sacrificed to the well-being of the many. In regard to questions of State, and the civic regulation of society, this is in the main true; but the question of averting from the weak the extermination which, unchecked by medical aid, would result, does not fall under this view. There is a point in this discussion, however, which may receive attention from every source tending to improve the public good. There is a difference between the right to live and the right to transmit physical ills to future generations. While the right to prolong the life of the physically unfit cannot be denied, the restriction of their right to propagate their unfitness is the unwelcome truth toward which attention must some day be turned. There is another view. Life is not all. The survival of the fittest does not relate to the physical man. There is a soul in every body, and none can name the possibilities of that soul. It, although its habitation be the frailest of flesh, may be the benefactor who will advance mankind more than all the efforts of the most perfect physique.

People have existed whose glory centred in the development of physical being, and their pride was the strength of their gladiators and the endurance of their

soldiery. The Spartans, in exposing the feeble child to die, and in training the warrior to stand unmoved while the wolf tore out his vitals, logically followed their purpose of developing physical manhood in the time of defensive and offensive warfare. But this is repugnant to enlightened civilization, which demands something higher of man than physical culture; and, while the observance of health-laws, and the promotion of the public physical welfare, are duties to be sacredly performed, science and the state cannot permit the invalid to die for want of care, however far they may go in protecting posterity from the inheritance of physical ills.—*Sanitary News.*

Magazines for March.—*Harper's Magazine* for the present month will attract notice from its article on "The Institute of France," and by its papers on "New Vienna," and on "Norway." Mr. Norman Lockyer has also an interesting paper on "Celestial Species." The illustrations, as usual, are most artistic. *Belgravia* and *The Gentleman's Magazine* are full of interesting articles; the former being rich in fiction, while the latter contains a number of thoughtful articles on topics grave and gay alike. The *Season* continues its successful career as an illustrated magazine of ladies' dress-fashions. Its information is always "up to the times" on the important matter of dress. *Babyhood* is to be highly commended for its excellent articles and advice dealing with infant-life. *Illustrations*, edited by F. G. Heath, is a wonderful three-pennyworth of literature and art, and should become a favourite magazine with both old and young. From Messrs. Cassell & Co. we have received Part I. of the *Book of the Household*, which is likely to prove useful as a guide to domestic management. Their *Popular Educator*, *Illustrated History of England*, and *Countries of the World* are, as usual, full of matter calculated to render self-instruction and self-culture an easy task. *Public Health*, edited by Mr. Wynter Blyth, must prove a useful companion to the medical officer of health or sanitary inspector. Higher praise cannot be bestowed upon this excellent technical journal. Of Dr. Richardson's indefatigable industry, his magazine, the *Asclepiad*, is an excellent proof. The papers in the current issue are all written in Dr. Richardson's well-known expressive style, and deal with problems in medicine in a manner which must commend the lucidity of the author's thought to all his readers. As a pioneer in medical literature, the *Asclepiad* merits the wide circulation to which it has attained.

Highest Award, Only Gold Medal, London, 1884.

GRANT'S SCOTCH OAT-FLOUR.

Established 1813.

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"Being very much interested in the 'Food Question,' I buy all new things. Some are born only to die, others live out a useful life, and to this latter class Grant's Scotch Oat-Flour belongs. It is an admirable preparation of oats, giving all the nourishment without the roughness of oatmeal. Porridge, Puddings, Blanc-mange, and Biscuits are excellent made from it. I can, therefore, confidently recommend it to the healthy, because it will keep them in health; to the delicate invalid, because it will restore health; and to children, because it will lay the foundation of a sound and healthy life. To vegetarians it is invaluable. The ease with which it is prepared is by no means to be forgotten.

"Isabella Thwaites."

Healthy Houses

"A happy home must be a healthy home."—*Anon.*

CONSUMPTION AND HOUSES.

Can a house become so infected that those who live in it for any length of time are specially liable to become affected with consumption? It seems very probable that this may occur, and that a certain proportion of those cases of consumption which are said to be due to heredity, as where several cases occur in one family, are in reality due to common residence in an infected house.

The volume of the transactions of the Epidemiological Society of London for 1886-7 just published contains a paper by Dr. Arthur Ransome entitled "Some Evidence Respecting Tubercular Infective Areas," in which this question is discussed, and attention is especially called to the frequency with which groups of several cases of deaths from consumption in one family occur in small, badly-ventilated cottages situated on damp, clay soils. With our present knowledge of the conditions necessary for the growth of the tubercle bacillus, and of the very persistent vitality of its spores as found in matter spit up by consumptives, seeing that this matter may be dried and ground to dust, and yet the spores remain for weeks capable of development into the specific bacilli if they can only get a week's lodgment where they can get food and a sufficiently high temperature, it is probable that every one inhales more or less of these spores, but that in healthy lungs and throats they do not flourish and are soon removed.

If, then, we accept the theory that a particular group of houses, or even a particular house, may be specially dangerous as a cause of tuberculous disease, it must be because the bacilli or their spores are found in such places in unusual large quantity, or because the locality and conditions are such as to specially favour the growth of these organisms, or because the locality and conditions exercise such an influence on those who live in them that the bacilli find it possible to grow and develop in their lungs or air passages, or, finally, because of a combination of these. The first reason is not a probable one, because very careful investigation in hospitals for consumptives, in which the number of bacilli and spores present must be relatively large, does not indicate that healthy persons, such as nurses, &c., living in them are specially liable to contract the disease.

It is dampness and want of ventilation that makes a house or group of houses dangerous, and they probably do this, in large part at least, by causing or promoting slight inflammation of the air passages, sore throats, bronchitis, &c., which lower the vitality of the tissues, and so make them fit to support the tubercle bacillus.

If into such dangerous houses a case of consumption is brought, it is easy to see how the house may become infected and a source of specific contagion as well as of general debility or disease.

Dr. Ransome gives illustrations of the wide difference in the death-rates from consumption between different squares or groups of squares in Manchester and Salford, showing that it is in the narrow streets and courts, where there are many back-to-back houses having usually no cellars and no ventilation, that the mortality from consumption is greatest. The moral is the same as usual—seek a well-ventilated, thoroughly dry house, on a dry subsoil,

and you need not worry overmuch because you have "consumption in the family." It is consumption in the house that you have most to dread.—*Sanitary Engineer.*

DEFECTIVE PLUMBING AND ITS DANGERS.

DR. JOHN S. BILLINGS, in the *Popular Science Monthly*, asks: "What are the dangers to health from defective plumbing?" They are due to gases or to micro-organisms coming from defective fixtures, joints, or pipe, or from soil pollution due to such defects. The gases in question are, for the most part, products of the decomposition of organic matter of animal origin, and the types are carbonic acid, ammonia and its compounds, and sulphuretted hydrogen. There are also produced certain effluvia, of the precise nature of which little is known; the most common is that giving a faint, sweetish, peculiar odour, resembling that of boiled turnips.

These gases and odours do not produce specific disease, but when they are distinctly present in a house the inmates are liable to be affected with various forms of disturbed digestion, loss of appetite, slight headache, and a depressed state of vitality. How far these are due to the gases themselves, and how far to the micro-organisms present under such circumstances, we do not yet know. The majority of persons gradually become so accustomed to their effects that they can live and work with little or no apparent inconvenience in an atmosphere which is so charged with them as to be not only offensive, but really dangerous to those accustomed to pure air only. Plumbers, scavengers, workers in sewers and at sewage-works, or in bone-boiling establishments, &c., prove this; but it must be remembered that these are survivors, and that a certain number who begin these occupations soon find it necessary to go into some other business. Upon the whole, the dangers from gases only in connection with house-drainage are small and comparatively easy to avoid, the main thing for this purpose being a complete and constant ventilation of the pipes.

In part the dangers are due to extremely minute particles of living matter, most, if not all, of which are vegetable organisms known as bacteria. There are many different kinds of bacteria, and they have very different properties and powers; but those which concern us in this connection are those which grow and multiply in decomposing organic matters, and especially in excreta. Almost without exception these bacteria belong to species which are found in the air of streets, in all intestinal discharges, and in all putrefying matters. They are not only harmless under all ordinary circumstances, but are highly useful in decomposing dead organic matter into simple compounds available for the nutrition of plants. They are found in countless numbers in the slimy, pulpy layer of decomposing matter lining the interior of soil-pipes, which matter they are constantly decomposing into gases and soluble products readily washed away. They are also present in large quantities in sewage as it flows in the sewers.

There are a few forms of bacteria which we have good reason to believe are the causes of certain diseases called specific. Each of these specific diseases has a definite course, and is due to the entrance into the body of particles of living matter derived, directly or indirectly, from the body of a person affected with the same disease.

We now know the particular kinds of bacteria which cause several of these diseases, and can identify them with considerable certainty. Those of most interest in connection with house-drainage are those which are supposed to cause suppuration, septicæmia, puerperal fever, erysipelas, intestinal irritation and diarrhœa, typhoid fever, and sore throats and diphtheria.

These diseases are less frequent and less fatal in sewered than in unsewered cities, and in the central sewered portion of a city than in the unsewered suburbs. Systematic house-to-house inspections in cities have shown that over one half of the houses have more or less defective and foul fixtures and leaky soil-pipe joints, so that if specific germs are often present there should be much more sickness than there is. As a matter of fact, there is no evidence that scarlet fever, measles, small-pox, or whooping-cough has ever been transmitted by sewer air. There is reason to think that in a few and exceptional cases diphtheria and typhoid have been caused by inhaling sewer or soil-pipe air; but the danger of incurring these diseases in this way is small as compared with the other and usual sources of origin, although it is probable that the ordinary non-specific sore throats which sewer air tends to produce form a specially favourable site for the development of the specific microbe of diphtheria, and that in this way foul air is a predisposing cause of this disease. Schools are much more dangerous than sewers as regards the propagation of diphtheria.

The typhoid-fever bacillus is said to have been found in the air of a sewer from an institution in which there was an epidemic of typhoid, and there is a theoretical possibility that the disease might thus be produced in a house by conveyance of its germs through sewer and soil-pipe air; but such conveyance must be extremely rare. It should be distinctly understood that neither the most perfect system of house-drainage nor total absence of house-drainage will protect the inmates of the house to any considerable extent from diphtheria or from typhoid.

The most dangerous micro-organisms which are commonly found in sewer and soil-pipe air are those which produce suppuration, erysipelas, or septic poisoning when they gain access to the interior of the body through a wound of any kind, although they may be inhaled or swallowed with comparative impunity. These are especially dangerous to new-born infants and to lying-in women, as well as to wounded persons. From my personal experience I should say that the forms of disease most frequently produced by sewer and soil-pipe air, with its contained bacteria, are slight inflammations of the throat, tonsilitis, and mild diarrhœal troubles.

It will be seen, therefore, that while attempts to scare people by depicting the horrors of sewage gas, &c., in order to prevent the construction of sewers, to promote the sale of certain fixtures, or to improve the house-inspection business are not justifiable, it is certainly true that, upon ordinary insurance principles, it is wise to prevent as far as possible the entrance of sewer and soil-pipe air into dwelling-houses, offices, hospitals, and public buildings; and that a municipality is justified in taking measures to secure such prevention for those who are too ignorant, too indifferent, or too helpless to do it for themselves.

RICKETS are generally referred to abroad as the "English disease." In regard to treatment, Dr. Schultz, of St. Olga's Children's Hospital, Moscow, uses a mixture which consists of two parts of phosphorized oil of the strength of one per cent., with forty parts of almond oil, twenty-one of gum arabic, two hundred of peppermint water, and fifty of syrup. Of this emulsion a teaspoonful is given every night, and in twenty-five cases all but two were decidedly improved.

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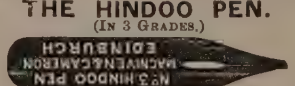

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Popular Science Papers

"Blessings on Science! When the Earth seemed old,
When Faith grew doting, and our reason cold,
'Twas she discovered that the world was young,
And taught a language to its lisping tongue."

—*Charles Mackay.*

THE HUMAN BODY AS A MACHINE.

It may be convenient, as well as necessary, to summarize briefly the amount of work which a human body performs, say, in such a period of time as twenty-four hours. Viewed as a machine, there is little difficulty in showing that a man's body is a piece of mechanism in constant use. Even in sleep we do not still the heart or the process of breathing; and other actions, such as those of digestion, secretion, and absorption, continue to be performed while active conscious life has been temporarily abolished.

Now, if we sum up the work done by or in various organs and processes of the body, we may be startled by the computations of the physiologist. Thus, the "unit of work" is the term used to express the method of calculating a machine's performance; and this unit is defined as the energy expended or employed in raising a unit of weight (1lb.) through a space or unit of height (1 foot). Thus, we may define a "foot pound" of force as that which will raise one pound weight one foot high. If the work of the heart be estimated on this basis, and if we estimate and multiply the force expended on its contractions into a lump sum for the twenty-four hours, we shall discover that in the time just named a man's heart performs an amount of work equal to 124 *foot tons*.

Put in plain language, this means that if we could gather into one huge "lift" all the force expended by the heart in twenty-four hours of its work, such force would be equal to lifting 124 tons' weight one foot high. The enormous amount of energy required to accomplish this task may be better imagined than described. Suffice it to say that the calculation in a new sense demonstrates the greatness of little things, and proves true, in a novel fashion, the aphorism that "union is strength." One beat of the heart, like one rain-drop, may be an insignificant unit of force or bulk; but, multiplied into its thousands, we find facing us cumulative amounts of energy and water which are capable of effecting very great things in their respective spheres of action. The muscles of breathing in man, acting more slowly than the heart, perform in twenty-four hours work equal to 21 foot tons.

These two sources or modes of work in the body have, of course, to be greatly enlarged. Every muscular movement we undertake means work done and energy expended. Even when we digest food to repair our frames, the very act of reparation implies expenditure of energy to fit the food for being incorporated with our substance. Life in this sense is a "robbing Peter to pay Paul." We really burn the candle at both ends in order to carry on the process whereby we maintain our place in the world, so that every action, from the twitching of a muscle, the winking of an eyelid, to the most laborious task we can perform, is evidently attended by a corresponding expenditure of energy. The production of heat, like the production of motion, must be added to the list of bodily work; and the actions of brain and nerves, albeit such phases of life are apparently removed from the ordinary run of bodily duties, are nevertheless to be strictly included in these works of our frame which entail an expenditure of energy.

Summing up the bodily labour, then, performed in one day of twenty-four hours by a full-grown man who is living a fairly active life, we may say that, in the period of time just named, his living machinery does work equal to about 3,400 foot tons. In other words, he performs work equal to that of lifting 3,400 tons one foot high. Of this amount, it is argued by physiologists, about one-tenth only is expended in internal and external mechanical work,—that is, muscular actions. The greater part of the work is really employed in keeping up the *heat* of the body. The nine-tenths of the work are said to represent the heat required to raise 48·4lbs. of water from freezing to boiling point. If estimated as mechanical power, this amount of energy would be equal to raising a man's weight of 150lbs. through a height of eight miles and a half.

The amount of food which is required to keep up the frame of the man, and to supply him with "energy" or power of doing work equal to that just noted as the natural performance of the adult body, amounts to 8¾lbs. of matter per day. Included in this estimate is a large amount of *water*,—by weight, somewhat over 5lbs.,—while oxygen, amounting to almost 2lbs., and solid food over 1lb. weight, serve to make up the sum total of 8¾lbs, or thereabouts, as a fair estimate of the daily bodily income. The expenditure of the body, estimated as nearly as may be on the same lines, amounts to 8¾lbs., this expenditure, however, being so far "diagrammatic" in that, when dealing with a living body, we cannot certainly bring out results correctly to the matter of grains on the one side or the other.

Put in a fairly approximate form, however, the bodily income and expenditure may be set down (for each side) at about 8¾lbs. of matter taken in as food, and 8¾lbs. given out by lungs, skin, kidneys, and intestine, in the shape of such waste materials as water, minerals, urea, carbonic acid gas, ammonia, and organic matters. A commercial undertaking, however, in which the income and expenditure were represented on paper by the same figures would not be regarded as representing a successful commercial enterprise. "What becomes of the profit?" is a question which would naturally be asked with reference to the successful pursuit of any business matter in which the income simply equalled the expenditure in the annual balance sheet.

This question, fortunately, is easily and exactly answered with reference to the bodily business. The profit comes out in the case of the body's business in the shape of the *energy*,—"the power of doing work,"—which we derive from our food. Out of this transaction, as Lord Armstrong puts it, we really obtain an enormous profit. We take in a few pounds of matter, and this, utilized in and by the body, breaks down into an equivalent of matter which is given out as expenditure and waste. But beyond this is the "energy" which we have reaped as profit,—the store of "potential" (or unused) energy which is latent in muscle and nerve, and which can be called forth at will to play its part in the functions of the frame; and the "kinetic" or actual energy of motion, which is being illustrated in every beat of the heart and in every muscular twitch, as well as in the most laborious duties pertaining to the living state.

Disinfection of Books.—The librarian of the Dundee Free Library disinfects books which have been lent out to members of households in which any form of infection has prevailed, by sulphur fumigation.

Jottings from the Journals

" Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sydney.*

The Education of Girls and Over-Pressure.—The many-sided theme of education is continually presenting new or altered features, interesting no less to the social reformer than to the teacher. The very nature of the work, indeed, is such that it must part with that enterprise in thought and endeavour which is its motive power, in order to give any assurance of safety which would deprive the former of his occupation. The more vigorous its activity, the greater need of his watchful care, lest over-zeal should work injury to the learner. Of no time was this ever more true than of the present. In all directions we may easily see the need of a controlling influence, a counter-zeal for temperance, which, though it must not be of that negative kind which dreads all strenuous effort as though every brain were feeble, must, at the same time, insist that the pressure of work shall not be uniform, but shall take due account of the varying aptitudes and powers of individuals. Good service was done for the cause of moderation by Mr. James Oliphant, of Edinburgh, in the course of a recent lecture on the education of girls. After condemning a too prevalent impression that the training of boys and girls should be governed by the same rules, he proceeded to discuss the general tendency to over-strain in education, its effects, and its proper treatment. Physical deterioration, he said, could best be prevented by a suitable distribution of studies during the day, and by allowing hourly short interludes of muscular exercise. Mental and general nervous over-strain was treated of at greater length, and in the same judicious manner. There was, he remarked, in our modern plan of study, too much reiteration and too little thought, a consequent sense of drudgery, and a lack of the interest which comes of using the reasoning power. Home-lesson work had become somewhat of a tyranny, and might with advantage be lightened and rendered more interesting. There was some force also in the observation that possession of special aptitudes did not justify the preference often given to these in cultivation, at the expense of less developed faculties. The overgrowth of the competitive system was another topic which received a well-merited censure. It is to be hoped that these timely remarks as coming from a teacher of experience, and addressed to parents, will not fail of their due effect in forming opinion on an important subject in the northern centre of education. We would wish for them a much wider influence, and we trust that the delusive attraction of immediate results will not much longer induce teachers or teaching bodies to countenance the present system of cram. Injurious alike in the case of male and female pupils, it must and does tell with especial force on the more sensitive nervous systems of the latter, and the fact implies a caution which parental responsibility cannot afford to overlook. —*Lancet.*

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Infant Insurance.—Mr. Hicks, Coroner of Surrey, in a letter, gives a brief abstract of the present law with respect to payments on the deaths of children under ten years of age. He then suggests eleven alterations and amendments, and it is sufficient to state them to show what the weak points of the existing law are. He would allow no child to be insured under the age of five, or, if insured, allow no money to be paid if it died under that age. The amount paid in case of death should be commensurate with the expense of burial, and in no case should the amount paid for burial exceed £2 10s. The funerals of insured children should be conducted by undertakers appointed and paid by the insurance companies, so that no cash payments should be made to the friends. Only parents should be allowed to insure, and then only when the child is in their care and charge. If the child attain the age of sixteen years, it should be compulsory on the insurance companies to give a surrender value for the policy, and after that age the child should be allowed to continue the insurance for his own benefit, if it has not been surrendered. On the other hand, if the child dies under the age of five, the insurers should be allowed to receive back a portion of the premiums. The deaths of insured children should be reported to the coroner, who would hold an inquiry if the circumstances seemed to demand it, and if it is found that the child has been neglected, though the negligence does not amount to manslaughter, notice should be given to the insurance company not to make any payment. Finally, the existing rules as regards the certificate of the registrar to the insurance company should be retained. Of these proposed alterations, two seem to us especially valuable. One is the suggestion that the insurance companies should be obliged to give a surrender value for the policy if the child reaches the age of sixteen. But it is impossible to say how far such an arrangement is practicable without carefully collecting the opinions of men with special experience in the management of insurance companies. The other is the proposal that notice shall be given to the coroner of the deaths of all children whose lives are insured. Mr. Hicks finds a precedent for this in the Infant Life Protection Act, the Act passed to remedy the evils of baby farming. At the same time, it must be admitted that the provision is one which might be exceedingly unpopular with the parents. However blameless one's conduct may be, it is not pleasant to be under the supervision of officials. The insurance companies would, no doubt, welcome the innovation if it were uniformly applied; but it is probable that very few companies could afford to adopt the rule if it were optional, and to insist that the deaths of all children who happened to be insured with them should be reported and investigated. The competition for business is keen, and precautions which might be desirable both in the interests of those who insure and of those who are insured could not be taken for fear of incurring unpopularity. This is the justification for enforcing by law regulations for the introduction of which, it might be thought, self-interest would be sufficient reason.—*Glasgow Herald.*

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Dull Children and the School Board.—Public attention has been directed to a case of some hardship in a letter addressed by Dr. W. A. Dingle to the *Standard*. A woman was summoned at the Clerkenwell Police Court, at the instance of the School Board Officer, for not sending her boy to school. The boy, nine years of age, is described as dull-brained; the mother said he had been sent to nearly every Board School in the neighbourhood, with the result that as soon as the teachers find out that he is dull, he is sent home, and they refuse to admit him to the school again. The case was adjourned in order that the mother might produce a medical certificate as to the boy's condition. Dr. Dingle saw him twice, but did not feel justified in certifying him to be a fool. The mother explained to the magistrate that she was perfectly willing to send him to school, and had done so repeatedly,

but her explanation was of no avail, and she was fined three shillings. Since then she has taken him to two Board Schools, at both of which he was refused admission. We commented last week on the grounds upon which school exemptions should be granted; the case here given raises a more important question. Has any Board School the right to refuse a child admission to the school without seeing that some other provision is made for his education? It is bad enough that the mother of the child should be fined; it is far worse that thus far the boy's education appears to have been neglected. The fact appears to be that this boy is dull-brained, or feeble-minded; if so, the more does he need training. His mother, herself a pauper, has demanded education for him, and he has a right to it; what else is likely to enable him to rise in the world, and keep himself from sinking to the ranks of pauperism? This case is typical; many similar cases might be quoted in which a fine has been inflicted for non-attendance, but no means of education provided for the child. Provision should be made in schools for the "daft," the fools, and the "duffers;" if the ordinary classes will not have them, we should make provision, as is done in Germany and Norway, in special classes or schools for these exceptional children. It cannot be said that there is no room for them in the schools, for the budget of the London School Board, just issued by Sir Richard Temple, shows that there are now 75,000 school places in excess of the demand of average attendance. Let the School Board make inquiry for the number of "feeble" children in the respective districts who do not attend school, or are not wanted there, then appoint some inspector to look after them, as has been done for the deaf and the blind, and provide classrooms for the feeble children. There should be about twelve in a class under a special teacher, the children being exempted, if necessary, from examinations; and let the Board see to it that they no longer exclude the weak-brained children from their schools, unless other provision is made for them.—*British Medical Journal.*

The Meanest Man.—The meanest man up to date is Snifkins. He sold Jones a half-interest in a cow, and then refused to divide the milk, maintaining that Jones owned the front half. The cow hooked Snifkins, and now Snifkins is suing Jones for damages.

A pint of warm water taken on an empty stomach in the morning is the safest and surest of all remedies for habitual constipation. It dissolves the fecal matter and stimulates peristaltic action, thereby giving a normal action without pain. If the tongue is coated, squeeze a lemon into the water, and drink without sweetening.

South Africa, and How to Reach It by the "Castle" Line.—Under this title, Mr. E. P. Mathers has compiled a most interesting handbook, which stands unrivalled as a guide book to intending emigrants and tourists. The volume, handsomely printed and illustrated, is published by Messrs. Waterlow & Sons, London-wall, London, E.C., and gives the fullest details regarding the voyage made in Messrs. Donald Currie & Co.'s celebrated "Castle" Line of mail steamers. The arrangements made for forwarding passengers and goods by the "Castle" Line to all parts of South Africa are of the most complete description; and from a health point of view Mr. Mathers' book becomes of value, because the resorts which this line of steamers includes in its list are many and varied. The description of the Canary Isles, Madeira, and other resorts is succinct and clear, and numerous references render this book a most useful one to intending voyagers.

IMPORTANT ANNOUNCEMENT.

BONUSES TO SUBSCRIBERS TO "HEALTH."

Health, as our readers are aware, may be obtained of all Booksellers and Newsagents, and at the Railway Bookstalls, on the day of publication. It may also be ordered from the Publisher, 2, Paternoster-square, London, E.C., who will send the journal, post free, for a year, on receipt of postal orders for 10s. 10d.

As many of our readers who live in remote districts prefer to obtain Health from the Publisher direct, and as we are desirous of increasing the already large number of subscribers who give us a yearly order for the journal, we offer the following Free Gifts and Bonuses to all who subscribe to Health for one year or longer:—

(1.) To each Subscriber who remits 10s. 10d. to the Publisher, entitling him (or her) to receive one copy of Health, post free, for one year, we shall present a copy of Dr. Andrew Wilson's work, entitled "A Manual of Health Science" (Longmans & Co.), value 2s. 6d.

(2.) To each subscriber who remits 21s. 8d., entitling him or her to receive two copies of Health weekly, post free, for one year (or one copy for two years), we will present Dr. Richardson's "Ministry of Health" (Chatto & Windus), value 6s. The copies of Health so ordered may be posted to separate addresses.

(3.) To each person who subscribes 32s. 6d., for three copies of Health, post free, weekly, for one year, we will present the volume by Dr. Richardson mentioned above, and also the handsome, illustrated book entitled, 'Studies in Life and Sense," by Dr. Andrew Wilson (Chatto & Windus), value 6s.—being a free gift of the total value of 12s.

The bonus last mentioned will also be presented to anyone who succeeds in obtaining three yearly subscribers to Health, and who remits to the Publisher the sum of 32s. 6d., together with the names and addresses of the persons to whom the copies are to be posted each week.

As the literary gifts above-mentioned constitute books containing solid and reliable information regarding health and other matters of popular scientific interest, it will be seen that the above scheme, while intended to increase our already large circulation, also offers distinct advantages to new subscribers who guarantee by their subscriptions a year's support to this journal. All communications regarding subscriptions and other purely business details connected with Health should be addressed directly to the Publisher, 2, Paternoster-square, London, E.C., and *not to the Editor.*

Our Letter-Box

"Conference [maketh] a ready man."—*Bacon.*

NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including Books for Review, Specimens of Sanitary Appliances, &c.), to be addressed to "The Editor of Health," 2, PATERNOSTER-SQUARE, LONDON, E.C. Those intended for the Publishing Office to be sent to Mr. A. P. Watt, The Publisher, at the same address.

RULES FOR CORRESPONDENTS.

Owing to the mass of letters which reaches us each week, we respectfully direct the attention of Correspondents, desiring replies in the Letter-Box Department of Health, to the following rules:—

1. All questions are answered free of charge in the columns of HEALTH. A limited space only, is available for the insertion of replies each week.
2. All letters must be legibly addressed to "The Editor of HEALTH, 2, Paternoster-square, London, E.C.," *and to no other address.*
3. Questions to which answers are desired by post, are so replied to solely at the Editor's discretion. If no answer is sent by post, the query will be replied to in the "Letter-Box" columns of HEALTH. A stamped addressed envelope must accompany all queries to which a private reply is desired.
4. Addresses of physicians and surgeons will, as heretofore, be forwarded FREE to Correspondents on their enclosing a stamped addressed envelope for reply.
5. Correspondents are requested to write on one side of the paper only, and to make their inquiries as brief as may be consistent with clearness.
6. From the necessity of sending HEALTH to press early in the week, no Correspondent can be replied to in the "Letter-Box" columns in the same week in which the inquiry is received. Replies crushed out of any issue will be found in the succeeding number.
7. No Post Cards must be used in sending queries. Violation of this rule deprives the sender of the privilege of a reply.

QUERIES AND ANSWERS.

REPLIES: GENERAL, SANITARY, AND MEDICAL.

[Readers of HEALTH will kindly note that when back numbers of the journal are desired, the letters containing such requests and stamps for the numbers should be addressed to the PUBLISHER of HEALTH, 2, Paternoster-square, London, E.C., and *not to the Editor.*]

Z. Y. X.—You should be careful as to such exercises of all kinds: in our opinion, your morning walk after the bath (before breakfast) is fully sufficient for you. A short spell of the dumb-bells, of moderate weight, might be taken after your bath, but not to such an extent as to cause you fatigue. If you are wise, you will continue your walk and leave dumb-bells alone, always seeing that your walk does not fatigue you.

A. TODD.—You are needlessly exciting yourself. The affection you name is very common; but, as a rule, causes no inconvenience whatever, and is in no sense dangerous. If you take our advice, you will simply wear a suspensory bandage for a time; bathe the parts with cold water (to which a little Hazeline has been added) night and morning; and avoid constipation by the use of the diet, &c., recommended to "A. Bell" in last week's HEALTH. You only cause yourself needless alarm by reading articles in the medical journals.

C. PARKER.—Apply to Mr. Forsyth, 16, Renfield-street, Glasgow, for his catalogue of woollen clothing.

S. P. G.—Drink Pitkeathly Water regularly (see advt. in our pages), and limit your meat diet. Take plenty of vegetables and stewed fruits, and use Dahl's Cakes to breakfast and tea.

BRUM.—1. Give Horsford's Acid Phosphate a trial, as directed on the bottle. It is a drug which should suit your case admirably. 2. No; but Mellin's Food will suit you.

E. F. F.—See advertisement of the Coca Leaf preparations of French Hygienic Society in our pages.

GEORGE THIN.—The Zander Machines are now the property of the Medical Battery Company, 52, Oxford-street, London, W. Apply to them for terms.

A. SLOMAN.—The mucous membrane of the throat is probably a little relaxed. Use the Soden Mineral Pastilles, to be had from all druggists, and at bedtime inhale the vapour of a pint of hot water to which a little Sanitas Oil has been added.

GERTIE.—1. The water you wash with is probably far too hard. Soften it by using the Oriental Aromatic Salts; this preparation will also stimulate the skin. For the rest use Bayley's Spermaceti Soap. 2. Apply a little of Bayley's "Pommade Divine" to the affected part. 3. Mr. Browning, 35, Alfred-place, London, W., will advise you as to spectacles.

E. F. B.—Your case is one for a tonic. Try La Bourboule Water (Ingram & Royle, or any chemist), which, as an arsenical water, will be most likely to do good. See HEALTH of a recent date for a full notice of this water. Dust on the skin a little of Woolley's Sanitary Rose Powder.

NOBILIS.—May's Pink Powders are perfectly harmless and efficient as a medicine for infants. We have had them analysed, and can testify to their innocuous character.

C. BEARDMORE.—Apply Doig's "Septicide" as a liniment to the part; and, internally, take two Antipyrin Tabloids every three hours—each tabloid contains five grains; they are made by Burroughs, Wellcome & Co. Order of your druggist.

ELIXIR.—We have never heard of such a drug; but you may safely try Vinolia as an application—see article in our pages on this preparation; and use Vinolia Soap.

HUSSAR.—You do not need any tonic. What you require is a complete change of diet and more open-air exercise. Read and follow advice regarding diet and the use of Cascara as given to "A. Bell" in last week's HEALTH; and take a tepid sponge bath each morning.

IRRITATION.—Use Vinolia as an external application to the part, to be had from any good druggist, or from Roberts & Co., 76, New Bond-street, London, W., and wash the parts night and morning with Vinolia Soap and tepid water. If you are a coffee-drinker, give up that beverage, as its use is often attended by itching in certain persons. For piles, use Bayley's Cure, 17, Cockspur-street, Pall-mall, London, S.W., and regulate your diet according to the advice given to "A. Bell" in last number. If not cured, write again.

H. BRAY.—Use the lotion recommended to "Plim" in last week's HEALTH, and wash the head once a week with Bayley's Spermaceti Soap and tepid water. Avoid wetting the head at all (save in washing it weekly), and use a soft brush only, avoiding hard and small combs.

RICHARD.—1. Apply to the French Hygienic Society, 6, Conduit-street, London, W., who will advise you regarding a harmless hair-dye. 2. Read the article in HEALTH, No. 199 (to be had from the Publisher, post free, for 4½d.), and read the article on acne and how to cure it. This will guide you regarding the treatment of pimples; and take internally fifteen drops Fer Bravais, after food, in water, twice daily.

SIMPLE AND FOOLISH.—By all means try the prescription you name. It will do you good as a tonic; and you should also use cold sponging night and morning. Get rid, once for all, of all morbid and desponding ideas. There is nothing really wrong with you which plenty of out-door exercise and the tonic will not cure. Let us hear from you if not bettered.

CHRONIC.—1. No danger at all; such veins often become turgid as a natural action. The reply you received was correct.

NERVOUS EXHAUSTION.

PULVERMACHER'S World-Famed GALVANIC BELTS for the Cure of NERVOUS EXHAUSTION and DEBILITY, have received testimonials from three Physicians to Her Majesty the Queen, and the leading Physicians of nine London Hospitals, including over Forty Members of the Royal College of Physicians of London.

The distressing symptoms of NERVOUS EXHAUSTION and DEBILITY are speedily removed by means of **PULVERMACHER'S world-famed Galvanic Belts,** which are so arranged as to convey a continuous electric current direct to the affected parts, gradually stimulating and strengthening all the nerves and muscles, and speedily arresting all symptoms of waste and decay.

Dr. H. A. ALLBUTT, M.R.C.P., 24, Park Square, Leeds, writes, Oct. 1888:—"I always recommend with confidence MR. PULVERMACHER'S BELTS. Ladies recovering from illness incidental to their sex will find these BELTS of vast assistance in restoring lost nerve power."

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SIR CHARLES LOCOCK, Bart., M.D., says:—"PULVERMACHER'S BELTS are very effective in neuralgia and rheumatic affections, and I have prescribed them largely in my practice for other similar maladies, paralysis, &c."

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(Established over Forty Years.)

2. Because they are genuine,—the best of all reasons. 3. A quack concern entirely.

Weak Hair.—Use the preparations recommended to "Robert Mair" in last week's Health. You must not use any other preparation while employing that ordered you.

Exhibit.—1. Probably only a slight attack of neuralgia. 2. Liver disturbance, which you should treat by diet and Cascara as ordered to "A. Bell" in last week's Health.

Lorna Doone.—1. We have no knowledge of the book to which you refer, and there is no popular work on skin-troubles that we know of. If you take our advice, you will simply give the treatment ordered you a trial. In Health, No. 199 (to be had from the Publisher, price 4½d., post free), you will find much excellent advice about the treatment of acne. A Turkish bath now and then would be likely to do you good. If you wish to consult any London physician, send us stamped addressed envelope (see Rule 4 to Correspondents), and we will send you name of a reliable authority.

G. Christie. — Superfluous hairs can only be satisfactorily removed by electrical means. Read the article on this subject in Health, No. 149.

F. Allison.—Try Cascara Cordial, twenty drops in half a wineglass of water (or a tabloid, once or twice daily), an hour before meals; avoid fatty foods, and let your diet consist largely of Grant's Oat Flour, milk, milk-puddings, white boiled fish, and vegetables. Use Dahl's Cakes regularly.

A Fortune.—Read the pamphlet entitled "A Lecture to Young Men" (2nd Edition, post free for 1d. 1s. from Mr. Renshaw, 356, Strand, London, W.C.), and follow out the instructions therein given regarding diet habits and the use of tonic measures.

T. Bridges.—Attend to the under-noted directions:—Take no food for eight hours; then in the evening take the following draught: Extract of male fern, thirty minims; powdered gum acacia, one drachm; peppermint water, one ounce; make an emulsion. Next morning take a full dose of castor oil, and about midday a large plate of mashed potatoes. The minute head of the worm is the part which requires to be brought away. Repeat the treatment if symptoms of the worm should show themselves at a subsequent period.

Gertrude.—Try an Antipyrin Tabloid (five grains) in water every three hours, taking no more than three tabloids per day. The tabloids are made by Burroughs, Wellcome & Co., Snow-hill, London, E.C.

Lotus.—You suffer from "blackheads," which are filled up skin-glands. Press out the matter from the glands, and then sponge the parts with a little of Bayley's Eau de Cologne. They are an evidence of defective skin action. Take warm baths, use brisk friction to the skin, wash with Bayley's Soap, and avoid excess of fatty foods.

G. Tennant.—Superfluous hairs can only be satisfactorily removed by electrical aid. Read the article on this subject in Health, No. 149. We can send, if desired, on receipt of stamped addressed envelope, address of a specialist who removes hairs in this way.

Edgar Noble.—Wash with Bayley's Spermaceti Soap regularly (17, Cockspur-street, London, S.W.), and apply to your skin at night a little Lanolin Cold Cream. Avoid chills, and clothe warmly in Forsyth's Woollen Clothing (13, Renfield-street, Glasgow), while, during the cold season, you may find much comfort and aid in taking a dessertspoonful of Scott's Pure Cod Oil Emulsion, after food, thrice daily. This will tone up your system at large.

Volta.—What you name largely depends on defective liver-action. We should recommend you simply to make a radical change in your diet-habits. Follow advice given to "A. Bell" in the last number of Health, and you will benefit thereby, and cure your constipation, which lies at the root of all your troubles. Take a tepid sponge-bath every morning.

Rex.—1. In some cases it produces the result you name, in others not. 2. The yolk of an egg contains much fat, and is probably less easy to digest than the white. 3. The medicine you name is both crude and dangerous to use.

K. A. J.—The risks increase somewhat with age, but with attention and good medical care we do not think you should feel in any way alarmed. There is no reason whatever why you should not take the step you propose, in so far as any material risk of danger is concerned.

W. B.—There is no popular book on indigestion to which we can refer you; but probably you would obtain all the information you need from the Diet Tables by Dr. Philpott, published by Sampson Low & Co., London. That on Dyspepsia will suit your case. Rest after your meals, avoid excess of vegetables (and especially potatoes), and take your flesh-food chiefly in the shape of nutritious soups made with Brand's Essence of Beef. White boiled fish should suit you in the way of diet, while you should try peptonizing the milk you drink by Fairchild's Peptonizing Powders. If flatulence is present, take five drops of Pure Terebene on a piece of sugar.

BUNTER'S NERVINE Cures TOOTHACHE Instantly.

Prevents Decay, Saves Extraction. Sleepless Nights Prevented. Neuralgic Headaches and all Nerve Pains removed.

Dr. Andrew Wilson, F.R.S.E., &c., writing in *Health*, says: "'BUNTER'S NERVINE' has stood the most severe test. For many years it has been the favourite household Remedy for TOOTHACHE and kindred ailments of NEURALGIC character. It contains nothing of a deleterious nature, and should claim an honoured place in every family medicine chest."

BUNTER'S NERVINE. Sold by all Chemists, 1/1½.

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Is the most Simple and

PERMANENT STOPPING for DECAYED TEETH.

Any one can easily prepare and place it in the cavity of the Tooth in a soft state, and in a short time it becomes a perfectly hard and white Enamel, forming, as it were, a part of the original substance of the Tooth.

All Chemists, 1/6. *Post Free*, 19 *Stamps, by Proprietor.*

PURILINE Tooth Polish

Will Purify and Beautify the Teeth with a Pearly Whiteness; Polish the Enamel; Destroy Tartar and all Living Germs; and Keep the Mouth in a Delicious Condition of Comfort, Health, Purity, and Fragrance. It is not a Powder or Soft Paste that will scatter over clothing and soil the toilet, but a Dental Paste of stiff consistency, non-gritty, and Absolutely Pure. May be carried in the pocket in any climate of the world, without injury or losing its virtues.

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A PURE, PERFECT, AND REFRESHING FLUID DENTIFRICE.

A few drops in water used daily will thoroughly Cleanse, Beautify, and Preserve the Teeth; Polish the Enamel, prevent Tartar, Destroy all living "Animalcules." It is Absolutely Pure and Harmless to the Youngest child or most delicate constitution.

Sold by all Chemists, Perfumers, &c., 1/- per Bottle, or sent post free by Proprietor.

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For Ladies, Gentlemen, and Children.

Write for Illustrated Catalogue containing full particulars.

FORSYTH, Renfield-street, Glasgow.

Manufactured and Exhibited by us at the GLASGOW INTERNATIONAL EXHIBITION.

E. W. R.—You need not be alarmed. You must simply persevere with your present remedies. Take a tepid sponge-bath each morning and a teaspoonful of Syrup of the Hypophosphites or Easton's Syrup (Sellers') in water, after your meals, twice daily. If not successful, then try one of Pulvermacher's Belts. You need have no fear or hesitation about the step you propose to take. If you wish a physician's address, observe Rule 4 to Correspondents.

Robert Johnstone.—Allow one of the Chlorate of Potash and Cocaine Tabloids (made by Burroughs, Wellcome & Co., and to be had of any druggist) to dissolve in your mouth occasionally, and take, after your meals, a teaspoonful of Easton's Syrup (Sellers') in a wineglass of water twice daily. You are low in bodily tone, and require tonic treatment.

W. Wilson.—Wash the irritable parts with Vinolia Soap, and apply thereafter Vinolia itself as an ointment (to be had from Roberts & Co., 76, New Bond-street, London, W.); for the rest, take fifteen drops Fer Bravais, in water, thrice daily, after your meals, and drink freely Pitkeathly Water combined with Lithia, as prepared by Reid & Donald, Perth, N.B. If not bettered, write again.

Alpha.—1. Write to Messrs. Pulvermacher direct, and they will inform you. 2. Probably muscular rheumatism. Rub the affected part night and morning with Bow's Liniment, and at bedtime take twenty grains bromide of potash dissolved in a little water.

Office-Mouse.—Your cure must consist in a radical change in diet. Read and follow advice given to "A. Bell" in Health, No. 308, and don't meddle with drugs, as you propose to do. You must take plenty of outdoor exercise, and limit your flesh-food. If not cured, write again.

A. P. S.—What you name is probably due simply to some throat-irritation. Give up cold water, and try tepid sponging, and after your meals take a dessertspoonful of Thomson's Cod Oil Cream (advertised in our pages), as a suitable tonic. At bedtime you may benefit much from inhaling the vapour of a pint of very hot water, to which a little Sanitas Oil has been added.

Thirty-Two.—We should say there is no need for you to be in any way alarmed. 1. If your general health is good, you may take the step whenever you please. 2. No remedies are needed, in our opinion; simply live plainly, but generously, and if any tonic be needed, try the Syrup of the Hypophosphites, as ordered in the pamphlet. 3. Try the lotion ordered to "J. Anderson" in Health, in 307. Use a soft brush only, and wash the hair once a week with Bayley's Spermaceti Soap and tepid water. Keep it short for a time.

M. J. Jones.—You mean *nævus*, or "mother's-mark." If this is the ailment, your doctor should be able to treat it by injecting into it a special substance, after the method of Dr. B. W. Richardson. You should consult a competent physician, if you are not satisfied with your doctor's opinion.

C. P. K.—The Medical Battery Company, of 52, Oxford-street, London, W., will supply you with a truss and bandage such as you require. Ask for their directions for self-measurement, as you live at a distance.

Peter Hume.—1. Give Howie's Filter a fair trial. It is easily cleaned, and thoroughly purifies water. 2. Woodward's Gripe Water is the medicine you mean. 3. For the teeth, use Wilson's Puriline preparations, advertised in our pages.

Weakened Energy

Horsford's Acid Phosphate.

This preparation supplies the phosphates required for the performance of the several functions of the body, and acts as a nutrient to the cerebral and nervous systems. Its value in the restoration of weakened energy is wonderful. Agreeable to the taste.

Dr. Edwin B. Wood, M.R.C.S., and L.R.C.P., Surgery, 123, Holoway Head, Birmingham, says: "I have tried it in extreme nervous debility, with very good results. I speak with great confidence of its good effects, and mean to continue its use."

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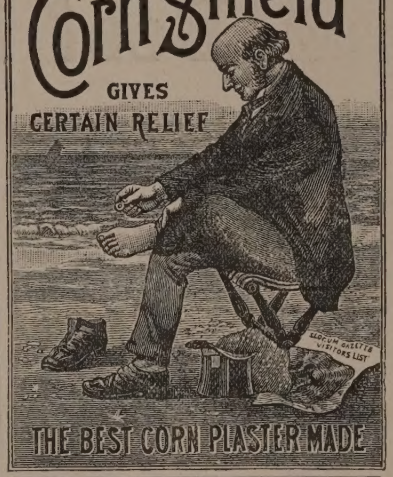

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